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FIG. 1 (PRIOR ART)

N

N

FIG. 2 (PRIOR ART)

	NUMBER OF MULTIPLICATIONS	NUMBER OF ADDITIONS
Chen	256	416
Wang	256	416
Lee	208	464
AAN	208	464

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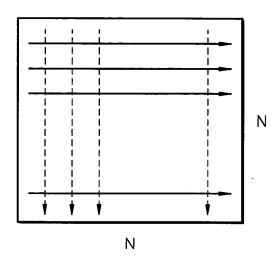Darryl Mexic 202-293-7060
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FIG. 3 (PRIOR ART)

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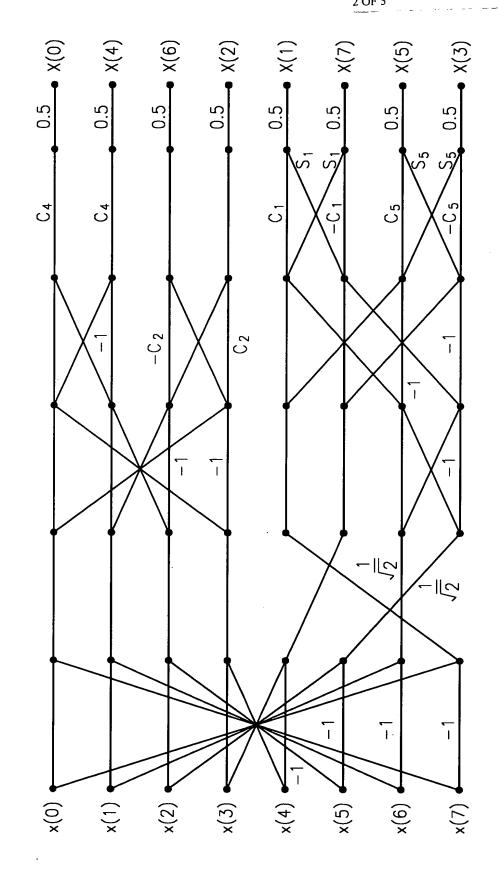Darryl Mexic 202-293-7060
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FIG. 4

```
                              ┌─────────────────────────────┐  40
                              │  EFFECTIVE ELEMENT NUMBER    │
                              │     CALCULATION UNIT         │
                              └─────────────────────────────┘

                        ────────CRITICAL VALUE────────

                            ─────DCT MATRIX─────

   ┌──────────────────────────────┐  41
   │    ELEMENT SEARCHING UNIT     │
   └──────────────────────────────┘

   ┌──────────────────────────────┐  42        ┌──────────────────────────────┐  43
   │   ELEMENT-WISE 2D IDCT UNIT   │            │   MATRIX-WISE 2D IDCT UNIT    │
   └──────────────────────────────┘            └──────────────────────────────┘

                       RESTORED MATRIX
```
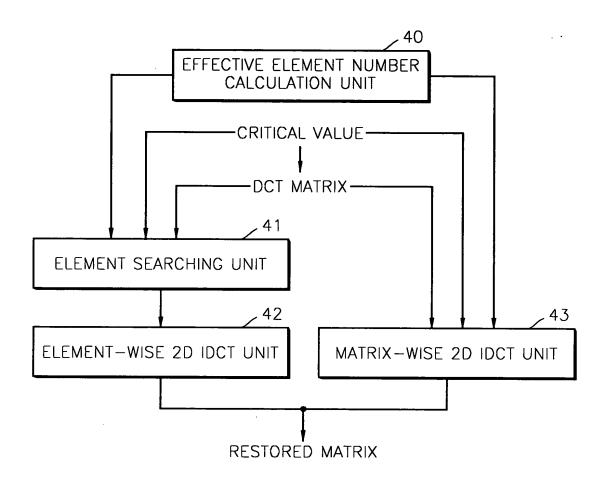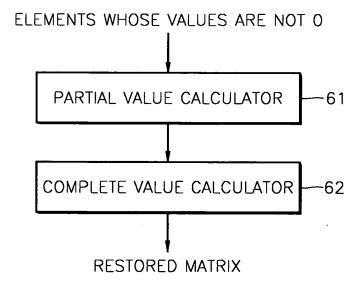
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TRANSFORMATION METHOD AND .....
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FIG. 5

A1	A3	A6	A7	A15	0	0	0
A2	A5	A8	A14	0	0	0	0
A4	A9	A13	0	0	0	0	0
A10	A12	0	0	0	0	0	0
A11	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

FIG. 6

ELEMENTS WHOSE VALUES ARE NOT 0

↓

PARTIAL VALUE CALCULATOR —61

↓

COMPLETE VALUE CALCULATOR —62

↓

RESTORED MATRIX

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TRANSFORMATION METHOD AND .....
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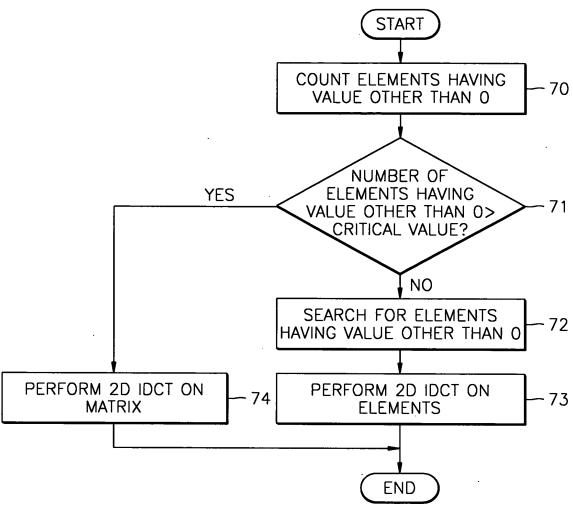Darryl Mexic 202-293-7060
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FIG. 7

```
                    ┌──────────┐
                    │  START   │
                    └────┬─────┘
                         │
            ┌────────────▼────────────┐
            │ COUNT ELEMENTS HAVING   │──── 70
            │   VALUE OTHER THAN 0    │
            └────────────┬────────────┘
                         │
                      ╱──▼──╲
                    ╱  NUMBER  ╲
         YES      ╱  OF ELEMENTS ╲
      ◄──────────  HAVING VALUE    ──── 71
                  ╲ OTHER THAN 0> ╱
                    ╲ CRITICAL   ╱
                      ╲ VALUE? ╱
                         │ NO
            ┌────────────▼────────────┐
            │  SEARCH FOR ELEMENTS    │──── 72
            │ HAVING VALUE OTHER THAN 0│
            └────────────┬────────────┘
  ┌──────────────┐       │
  │PERFORM 2D IDCT│ 74   ┌▼──────────────┐
  │ ON MATRIX     │──    │PERFORM 2D IDCT│──── 73
  └──────┬───────┘       │ ON ELEMENTS   │
         │               └───────┬───────┘
         └───────────────────────┤
                              ┌───▼───┐
                              │  END  │
                              └───────┘
```

FIG. 8

	NUMBER OF MULTIPLICATIONS	NUMBER OF ADDITIONS
Chen	256	416
Wang	256	416
Lee	208	464
AAN	208	464
PRESENT INVENTION	47	576